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Relevance scale ☐ ☐ ☐ ☐ ☐1 [A network architecture providing host migration transparency](#)

Fumio Teraoka, Yasuhiko Yokore, Mario Tokoro

August 1991 **ACM SIGCOMM Computer Communication Review , Proceedings of the conference on Communications architecture & protocols SIGCOMM '91,**
Volume 21 Issue 4

Publisher: ACM Press

Full text available: pdf(1.26 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)2 [Performance issues of a distributed frame buffer on a multicomputer](#)

Bin Wei, Douglas W. Clark, Edward W. Felten, Kai Li, Gordon Stoll

August 1998 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware HWWS '98**

Publisher: ACM Press

Full text available: pdf(1.63 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: multi-port distributed frame buffer, multicomputers, parallel rendering, synchronization

3 [Trading packet headers for packet processing](#)

Girish P. Chandranmenon, George Varghese

April 1996 **IEEE/ACM Transactions on Networking (TON),** Volume 4 Issue 2

Publisher: IEEE Press

Full text available: pdf(1.41 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#),
[review](#)

4 [Trading packet headers for packet processing](#)

Girish P. Chandranmenon, George Varghese

October 1995 **ACM SIGCOMM Computer Communication Review , Proceedings of the conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '95,** Volume 25 Issue 4

Publisher: ACM Press


Full text available: pdf(1.21 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In high speed networks, packet processing is relatively expensive while bandwidth is

cheap. Thus it pays to add information to packet headers to make packet processing easier. While this is an old idea, we describe several specific new mechanisms based on this principle. We describe a new technique, *source hashing*, which can provide $O(1)$ lookup costs at the Data Link, Routing, and Transport layers. Source hashing is especially powerful when combined with the old idea of a *flow I* ...

5 Image Retrieval II: Fast image indexing based on JPEG2000 packet header

 Chuping Liu, Mrinal Mandal

September 2001 **Proceedings of the 2001 ACM workshops on Multimedia: multimedia information retrieval MULTIMEDIA '01**


Publisher: ACM Press

Full text available:  pdf(346.85 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The application of images and video has increased significantly in recent years. It is crucial to develop indexing techniques for searching images and video on their content. Due to the lower computational complexity, compressed domain indexing techniques are becoming popular. Among the compression techniques, discrete-wavelet-transform based techniques have become popular because of their excellent energy compaction and multi-resolution capability, and has been adopted in the JPEDG2000 image com ...

Keywords: JPEG2000, bit plane, bit stream, image indexing, packet header

6 A unified header compression framework for low-bandwidth links

 Jeremy Lilley, Jason Yang, Hari Balakrishnan, Srinivasan Seshan

August 2000 **Proceedings of the 6th annual international conference on Mobile computing and networking MobiCom '00**

Publisher: ACM Press

Full text available:  pdf(1.35 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citing](#), [index terms](#)

Compressing protocol headers has traditionally been an attractive way of conserving bandwidth over low-speed links, including those in wireless systems. However, despite the growth in recent years in the number of end-to-end protocols beyond TCP/IP, header compression deployment for those protocols has not kept pace. This is in large part due to complexities in implementation, which often requires a detailed knowledge of kernel internals, and a lack of a common way of pursuing the general p ...

7 Low-loss TCP/IP header compression for wireless networks

Mikael Degermark, Mathias Engan, Björn Nordgren, Stephen Pink


October 1997 **Wireless Networks**, Volume 3 Issue 5

Publisher: Kluwer Academic Publishers

Full text available:  pdf(534.08 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Wireless is becoming a popular way to connect mobile computers to the Internet and other networks. The bandwidth of wireless links will probably always be limited due to properties of the physical medium and regulatory limits on the use of frequencies for radio communication. Therefore, it is necessary for network protocols to utilize the available bandwidth efficiently. Headers of IP packets are growing and the bandwidth required for transmitting headers is increasing. With the coming of I ...

8 Low-loss TCP/IP header compression for wireless networks

 Mikael Degermark, Mathias Engan, Björn Nordgren, Stephen Pink

November 1996 **Proceedings of the 2nd annual international conference on Mobile computing and networking MobiCom '96**

Publisher: ACM Press

Full text available:  pdf(1.51 MB) Additional Information: [full citation](#), [references](#), [citing](#), [index terms](#)

Distribution of Ada tasks onto a heterogeneous environment

Haruhiko Nishida, Takumi Itoh, Ryuji Nakayama

December 1991 **Proceedings of the conference on TRI-Ada '91: today's accomplishments; tomorrow's expectations TRI-Ada '91**

Publisher: ACM Press

Full text available: [pdf\(701.74 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)10 Session 7B: Tradeoffs in probabilistic packet marking for IP traceback

Micah Adler

May 2002 **Proceedings of the thirty-fourth annual ACM symposium on Theory of computing STOC '02**

Publisher: ACM Press

Full text available: [pdf\(318.24 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

There has been considerable recent interest in probabilistic packet marking schemes for the problem of tracing a sequence of network packets back to an anonymous source. An important consideration for such schemes is the number of packet header bits that need to be allocated to the marking protocol. Let b denote this value. All previous schemes belong to a class of protocols for which b must be at least $\log n$, where n is the number of bits used to represent the path o ...

11 MSXmin: a modular multicast ATM packet switch with low delay and hardware complexity

Rajgopal Kannan, Sibabrata Ray

June 2000 **IEEE/ACM Transactions on Networking (TON)**, Volume 8 Issue 3

Publisher: IEEE Press

Full text available: [pdf\(340.70 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: asynchronous transfer mode, multistage interconnection networks, routing, switching circuits

12 What TCP/IP protocol headers can tell us about the web

F. Donelson Smith, Félix Hernández Campos, Kevin Jeffay, David Ott

June 2001 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2001 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '01**, Volume 29 Issue 1

Publisher: ACM Press

Full text available: [pdf\(1.55 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We report the results of a large-scale empirical study of web traffic. Our study is based on over 500 GB of TCP/IP protocol-header traces collected in 1999 and 2000 (approximately one year apart) from the high-speed link connecting The University of North Carolina at Chapel Hill to its Internet service provider. We also use a set of smaller traces from the NLANR repository taken at approximately the same times for comparison. The principal results from this study are: (1) empirical data suitable ...

13 Visualizing packet traces

John A. Zinky, Fredric M. White

October 1992 **ACM SIGCOMM Computer Communication Review , Conference proceedings on Communications architectures & protocols SIGCOMM '92**, Volume 22 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.34 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper describes an environment for visualizing packet traces that greatly simplifies

troubleshooting protocol implementations. Network management centers routinely collect packet traces to tally traffic statistics and to troubleshoot protocol configuration and implementation problems. Previous efforts have focused on the reliable collection of traces and their statistical interpretation. Display of packet traces was restricted to a textual representation of the raw headers. Our prototy ...

14 Scalable packet classification



Florin Baboescu, George Varghese

August 2001 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '01**, Volume 31 Issue 4

Publisher: ACM Press

Full text available: [pdf\(242.61 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Packet classification is important for applications such as firewalls, intrusion detection, and differentiated services. Existing algorithms for packet classification reported in the literature scale poorly in either time or space as filter databases grow in size. Hardware solutions such as TCAMs do not scale to large classifiers. However, even for large classifiers (say 100,000 rules), any packet is likely to match a few (say 10) rules. Our paper seeks to exploit this observation to produce a s ...

15 High-speed policy-based packet forwarding using efficient multi-dimensional range matching



T. V. Lakshman, D. Stiliadis

October 1998 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '98 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '98**, Volume 28 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.82 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The ability to provide differentiated services to users with widely varying requirements is becoming increasingly important, and Internet Service Providers would like to provide these differentiated services using the same shared network infrastructure. The key mechanism, that enables differentiation in a connectionless network, is the packet classification function that parses the headers of the packets, and after determining their context, classifies them based on administrative policies or re ...

16 Smart packets: applying active networks to network management



Beverly Schwartz, Alden W. Jackson, W. Timothy Strayer, Wenyi Zhou, R. Dennis Rockwell, Craig Partridge

February 2000 **ACM Transactions on Computer Systems (TOCS)**, Volume 18 Issue 1

Publisher: ACM Press

Full text available: [pdf\(190.33 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This article introduces Smart Packets and describes the smart Packets architecture, the packet formats, the language and its design goals, and security considerations. Smart Packets is an Active Networks project focusing on applying active networks technology to network management and monitoring. Messages in active networks are programs that are executed at nodes on the path to one or more target hosts. Smart Packets programs are written in a tightly encoded, safe language specifically des ...

Keywords: active networks

17 Packet classification using tuple space search

V. Srinivasan, S. Suri, G. Varghese

August 1999 **ACM SIGCOMM Computer Communication Review , Proceedings of the**



**conference on Applications, technologies, architectures, and protocols
for computer communication SIGCOMM '99**, Volume 29 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.46 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Routers must perform packet classification at high speeds to efficiently implement functions such as firewalls and QoS routing. Packet classification requires matching each packet against a database of filters (or rules), and forwarding the packet according to the highest priority filter. Existing filter schemes with fast lookup time do not scale to large filter databases. Other more scalable schemes work for 2-dimensional filters, but their lookup times degrade quickly with each additional dimension ...

18 Packet classification on multiple fields



Pankaj Gupta, Nick McKeown

August 1999 **ACM SIGCOMM Computer Communication Review , Proceedings of the conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '99**, Volume 29 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.46 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Routers classify packets to determine which flow they belong to, and to decide what service they should receive. Classification may, in general, be based on an arbitrary number of fields in the packet header. Performing classification quickly on an arbitrary number of fields is known to be difficult, and has poor worst-case performance. In this paper, we consider a number of classifiers taken from real networks. We find that the classifiers contain considerable structure and redundancy that can ...

19 Performance evaluation of packet radio systems by simulation—a case study



Israel Gitman, Howard Frank, Richard Van Slyke

December 1978 **Proceedings of the 10th conference on Winter simulation - Volume 2 WSC '78**

Publisher: IEEE Computer Society Press

Full text available: [pdf\(1.17 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Packet-switching broadcast radio networks are receiving considerable attention as a feasible solution for applications involving fast network deployment requirements, inaccessible physical environments, and mobile communication devices. Such networks also offer economic alternatives to traditional multiplexing schemes for local distribution. Since analytic performance evaluation of packet radio networks is intractable, a simulation program was developed which models quite accurately ...

20 Using router stamping to identify the source of IP packets



Thomas W. Doepfner, Philip N. Klein, Andrew Koyfman

November 2000 **Proceedings of the 7th ACM conference on Computer and communications security CCS '00**

Publisher: ACM Press

Full text available: [pdf\(283.11 KB\)](#)

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